

ABSTRACT

In general, various methods and apparatus are described that use a multi-tone receiver. The multi-tone receiver detects data in a multiple tone signal. The receiver has a detector module to measure a noise power level present in the system and to detect for an asymmetric Gaussian noise source in the background noise. An equivalent noise power is obtained by applying a compensating gain factor to the asymmetrical noise source. The gain factor is used when the detector indicates that the asymmetric Gaussian noise source exists in the background noise. Any bit-loading algorithm that is based on a symmetric Gaussian noise source assumption can also be used with asymmetrical Gaussian noise sources if this gain factor is applied.